



## Contents

(Abstracted/indexed in: *Chemical Abstracts; Current Contents; Physical, Chemical & Earth Sciences; INSPEC; PASCAL/CNRS*)

*Special Issue: Proceedings of the Engineering Foundation Conference on Surface Characterization of Adsorption and Interfacial Reactions, held in Keauhou-Kona, Hawaii, USA, 9-14 January 1994.*

Preface .....	vii
---------------	-----

### *Wetting phenomena*

Wetting characteristics of liquid drops at heterogeneous surfaces J. Drelich and J.D. Miller (Salt Lake City, UT, USA), A. Kumar and G.M. Whitesides (Cambridge, MA, USA) .....	1
The dynamics of wetting processes R.A. Hayes and J. Ralston (The Levels, S.A., Australia) .....	15
Experimental procedures to characterize acid-base and dispersion force contributions to solid wettability. A review T.B. Lloyd (Bethlehem, PA, USA) .....	25
Hydrophilic colloids and the elimination of inorganic sulfur from coal: a study employing contact angle measurements R.J. Good, M.K. Badgumar, T.-L.H. Huang and S.N. Handur-Kulkarni (Amherst, NY, USA) .....	39

### *Raman/fluorescence spectroscopy*

Reorientation of acridine orange at an alcohol-modified liquid/liquid interface J.L. Sassaman and M.J. Wirth (Newark, DE, USA) .....	49
Structure, reactivity and microrheology in self-assembled monolayers R.L. Garrell and J.E. Chadwick (Los Angeles, CA, USA) .....	59
Linear and nonlinear optical behavior in hemicyanine Langmuir-Blodgett monolayers Q. Song, Z. Xu, W. Lu and P.W. Bohn (Urbana, IL, USA) .....	73
In situ spectroscopic investigations of adsorbed surfactant and polymer layers in aqueous and non-aqueous systems P. Somasundaran and S. Krishnakumar (New York, NY, USA) .....	79

### *Infrared spectroscopy*

Composition and structure of self-assembled layers at molecular level J.A. Mielczarski, E. Mielczarski and J.M. Cases (Vandoeuvre-les-Nancy, France) .....	97
FTIR-ATR study of the co-adsorption of benzophenone with sodium dodecyl sulfate and sodium dodecylbenzenesulfonate using Al <sub>2</sub> O <sub>3</sub> -coated optics R.P. Sperline, Y. Song and H. Freiser (Tucson, AZ, USA) .....	111
Quantitative Fourier transform-infrared internal reflection spectroscopy (FT-IR/IRS) for adsorption density measurements M.L. Free, W.H. Jang and J.D. Miller (Salt Lake City, UT, USA) .....	127
Application of infrared spectroscopy in solid-solid separation processes S. Mathur and B.M. Moudgil (Gainesville, FL, USA) .....	137

### *X-ray photoelectron spectroscopy*

Application of electron spectroscopy to characterization of mineral surfaces in flotation studies I. Kartio, K. Laajalehto and E. Suoninen (Turku, Finland) .....	149
--	-----

A survey of the application of X-ray photoelectron spectroscopy to flotation research A.N. Buckley (North Ryde, N.S.W., Australia) .....	159
X-ray photoelectron spectroscopy applications to corrosion and adhesion at metal oxide surfaces J.B. Metson, M.M. Hyland, A. Gillespie and M. Hemmingsen-Jensen (Auckland, New Zealand) .....	173
Interface and polymerisation studies of pyromellitic diimide-based polyimide thin films on silver P.Y. Timbrell, N. Than-Trong and R.N. Lamb (Kensington, N.S.W., Australia) .....	181
<i>Electrochemical analysis</i>	
Ultrathin self-assembled polymer films on solid surfaces. 4. Electrochemical analysis of film microstructure on gold electrodes F. Sun, Y. Lei and D.W. Grainger (Portland, OR, USA) .....	191
Characterization of surface layers formed during pyrite oxidation X. Zhu, J. Li and M.E. Wadsworth (Salt Lake City, UT, USA) .....	201
Control of reactivity at carbon electrode surfaces R.L. McCreery, K.K. Cline, C.A. McDermott and M.T. McDermott (Columbus, OH, USA) .....	211
Observation of adsorbate coverage with electrogenerated chemiluminescence imaging R.C. Engstrom, P.L. Nohr and J.E. Vitt (Vermillion, SD, USA) .....	221
The incipient oxidation of pyrite D.P. Tao, Y.Q. Li, P.E. Richardson and R.-H. Yoon (Blacksburg, VA, USA) .....	229
Characterization of cytochrome c immobilized on modified gold and silver electrodes by surface-enhanced Raman spectroscopy D. Hobara and K. Niki (Yokohama, Japan), C. Zhou, G. Chumanov and T.M. Cotton (Ames, IA, USA) .....	241
Initiation and study of localized corrosion by scanning electrochemical microscopy D.O. Wipf (Mississippi, MS, USA) .....	251
<i>Surface forces</i>	
Use of atomic force microscope for the measurements of hydrophobic forces Ya.I. Rabinovich and R.-H. Yoon (Blacksburg, VA, USA) .....	263
Controlled modification of silicon nitride interactions in water via zwitterionic surfactant adsorption W.A. Ducker and D.R. Clarke (Santa Barbara, CA, USA) .....	275
Forces between polyelectrolyte-coated surfaces: relations between surface interaction and floc properties P.M. Claesson, M.A.G. Dahlgren and L. Eriksson (Stockholm, Sweden) .....	293
<i>Scanning probe microscopies</i>	
Applications of atomic force microscopy to structural characterization of organic thin films J.A. Zasadzinski, R. Viswanathan, D.K. Schwartz, J. Garnaes, L. Madsen, S. Chiruvolu, J.T. Woodward and M.L. Longo (Santa Barbara, CA, USA) .....	305
Electrostatic characterization of biological and polymeric surfaces by electrostatic force microscopy Y. Leng and C.C. Williams (Salt Lake City, UT, USA) .....	335
Adhesive forces between ligand and receptor measured by AFM V.T. Moy, E.-L. Florin and H.E. Gaub (Garching, Germany) .....	343
Compression of polyethylene glycol chains grafted onto silicon nitride surface as measured by scanning force microscopy A.S. Lea, J.D. Andrade and V. Hlady (Salt Lake City, UT, USA) .....	349
Imaging high frequency dielectric dispersion of surfaces and thin films by heterodyne force-detected scanning Maxwell-stress microscopy H. Yokoyama and M.J. Jeffery (Ibaraki, Japan) .....	359
<i>Author Index</i> .....	375
<i>Subject Index</i> .....	376

